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ABSTRACT

Sport facility design and management courses rely heavily or exclusively upon lectures and readings--modes of instruction that engage students in a passive form of learning. This paper advocates one method of stimulating higher-level thinking and active learning in facility courses--the use of cooperative small-group learning. In facility courses, this translates to assigning group projects that entail facility design and management tasks. Students are given particular sport facility scenarios (e.g. recreation or fitness centers) within clearly stipulated parameters (budgetary and square footage restrictions and clientele demographics). Students must then create and justify specific plans regarding designing, equipping, managing, maintaining, and marketing their assigned sport facility. Groups of two to four students brainstorm creative solutions given various parameters relative to time-usage constraints, number of facility users, institutional philosophy, and the needs of each department. Each group would then present its solution to the entire class. Throughout the term, students are given lectures and assigned related readings which address the basic principles in facility design, product research, management, maintenance and marketing. An example of a sport facility scenario and the tasks each group must perform is included. (LL)

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INTRODUCTION

Often, courses at the undergraduate and graduate levels rely upon traditional lecture methods to disseminate information, regardless of the discipline. Additionally, related readings from books and professional journals are frequently used to reinforce and supplement the lecture material. Facility design and management courses are no exception, relying heavily or exclusively upon lectures and readings.

Clearly, lectures and related readings are an important part of instruction. However, these modes of instruction engage students in a very *passive* form of learning — that is, learning which does not involve the higher-level thinking in Bloom's taxonomy (application, analysis, synthesis, creation, and evaluation) and which is of limited value relative to the problem-solving and critical thinking demanded of facility planners and managers.

The ultimate goal of any facility design/management course is to prepare students for the tasks they may face as facility planners and/or managers. To best prepare students for the challenges of "the real world," instructors must stimulate active learning by presenting students with exercises that require problem-solving, critical thinking, and interacting and exchanging ideas with others. That is, they must challenge students to engage in higher-level thinking.

One method of stimulating higher-level thinking and active learning in facility courses is the use of cooperative small-group learning (i.e., groups of two to four students). Cooperative learning is "a structured, systematic instructional strategy in which small groups work together toward a common goal" (Cooper and Mueck, 1989). In facility courses, this translates to assigning group projects that entail facility design and management tasks. Teams of students are

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given particular sport facility scenarios (e.g., recreation or fitness centers) within clearly stipulated parameters (e.g., budgetary and square footage restrictions, and clientele demographics). Students must create and justify very specific plans regarding designing, equipping, managing, maintaining, and marketing their assigned sport facility.

RESEARCH ON THE EFFECTIVENESS OF COOPERATIVE SMALL GROUPS TO PROMOTE ACTIVE LEARNING

Instructors in a small-group, cooperative-learning setting do not assume center stage; rather they must skillfully listen, monitor, interact, and assist students in guided inquiry or discovery. As Barbara Millis, an expert in the area of cooperative learning, has stated:

> In traditional classrooms, professors frequently stand behind a podium distanced from their students. Even when discussion occurs, it is frequently teacher directed and teacher focused. In classrooms using cooperative small-group work, the emphasis changes, and the instructor becomes not the sage on the stage but the guide on the side" (Millis, 1991).

Concerning the effectiveness of small-group learning, "almost twenty years of research studies have verified that it positively affects student achievement, higher-level thinking skills, positive attitudes toward the academic discipline, student retention of material, and self-esteem" (Millis, 1990). Furthermore, this approach to learning helps promote students' desire to pursue topics to a more advanced level (Light, 1990). Additionally, cooperative small-group learning enhances social competence and interpersonal relations (Natasi and Clements, 1991).

Perhaps the conclusions of Johnson and Johnson (1989) have the greatest relevance to cooperative group learning within the context of facility planning and management classes. These researchers state: "Cooperative small-group learning is indicated whenever the task is complex or conceptual, problem solving is required, divergent thinking or creativity is desired, critical thinking is needed, and long-term retention desired." In essence, planning and managing sport facilities involves all these — problem-solving, divergent thinking, creativity, and critical thinking.

In summary, the preponderance of research supports cooperative small-group learning as one of the most effective instructional strategies for courses such as facility planning and management. Additionally, planning and/or managing facilities is not done in a vacuum; that is, they are not the sole responsibility of one person. Such tasks require cooperative efforts, which further supports the notion of incorporating cooperative small-group learning in such courses.

HOW TO IMPLEMENT SMALL-GROUP COOPERATIVE LEARNING IN FACILITY DESIGN AND MANAGEMENT COURSES

Clearly, there is a strong case for cooperative small-group learning. The challenge, then, is how to implement this type of instructional strategy in facility design and management classes. There are many ways to utilize such instructional strategies, ranging from problem-solving tasks to be resolved in a single class period to semester-long problem-solving projects.

An example of a single class period sport facility problem-solving exercise would be to give students a short written scenario that asks them to find a solution to user conflict in a multipurpose college gymnasium. Such a scenario could include conflicts between the intercollegiate athletic, intramural, student wellness, and physical education departments. Groups of two to four students would have to brainstorm creative solutions given various parameters relative to time-usage constraints, number of facility users, institutional philosophy, and the needs of each department. Each group would then present its solution to the entire class.

However, small-group, cooperative-learning assignments that provide more realistic insight into the process of sport facility design and management are long-term (10- to 15-week) projects entailing the design and management of a sports facility. The small groups may be given a choice of several sport facilities to design and manage, such as a community recreation center, employee fitness center, health/fitness club, or school athletic complex.

During the term, these groups must develop plans to (1) design, (2) equip, (3) market, (4) manage (e.g., personnel & risk management), and (5) maintain the sport facility they have chosen. At the outset of the term, each group is given a detailed scenario for its particular sport

facility. This scenario includes parameters that have a bearing on all the tasks the group must execute. Below is an example of one such sport facility scenario and the tasks each group must perform.

HEALTH/FITNESS CLUB COMPLEX

LOCATION:	Peachtree City, Georgia
NAME OF CLUB:	Rodagold Fitness Center
SQUARE FOOTAGE:	33,000 square feet of activity and ancillary space
CLIENTELE DATA:	This health club is projected to serve up to 2700 members of a wide range of ages. Seventy-five percent of the clients are ages 21 to 45. This is a middle- to upper-middle-class, family-oriented community. Over 75% of the clients are college graduates. The clientele is evenly split in terms of male to female ratio, and this is the only coed health club in the area. A large percentage of the clientele are young married couples with small children.
SITUATION:	The investors want a club that will aim for the following: (a) a wide variety of means for participants to accomplish cardiorespiratory training (some means are listed within this document . . . you will have to think of others); (b) a large coed workout area that includes strength-training equipment and a wide variety of cardiovascular equipment, and two smaller single-sex areas containing the same types of equipment listed under "b" but in smaller quantities; (c) at least five racquetball courts; (d) a coed spa/whirlpool; (e) health and juice bar; (f) men's and women's locker rooms and saunas; and (g) two racquetball courts equipped for wallyball.

DESIGNER TASKS:

1. You must have a floor plan of the entire complex that precisely details square footage, dimensions, and so forth.
2. You need to indicate the precise setup (i.e., the location within the facility) of the equipment you are buying.
3. You must research a wide array of exercise equipment and develop a three-tier proposal for your capital and operating expense items (described in the next section, Equipment/Budget). Finally, you must select from the three options presented in your proposal for each item and justify your selections.
4. You need to develop a plan to market the facility to current and prospective members, based upon clientele data and community demographics.
5. You must develop a management plan that indicates hours of operation, programming (i.e., what classes will be taught, when they will be taught, etc.), personnel and their responsibilities, safety guidelines, maintenance, staff, public relations policies, and a detailed risk management plan.
6. You need to develop a maintenance plan for the entire complex, including personnel, cleaning procedures, and long-term maintenance (e.g., how often racquetball courts will be resurfaced).

EQUIPMENT/BUDGET:

1. You have been allocated $200,000 for the following capital expense items:
   a. a wide array of cardiovascular training equipment
   b. state-of-the-art strength-training equipment
   c. an impressive spa

2. You have been allocated $500 for the following operating expense items:
   a. racquetball rental racquets, balls, and goggles
   b. weight-lifting belts for rental
   c. wallyball equipment for two courts
   d. other equipment you deem necessary given your clientele needs

Throughout the term, students are given lectures and assigned related readings which address the basic principles in facility design, product research, management, maintenance, and marketing. Students, working in their groups, apply these principles to the tasks they must perform. For example, the above scenario calls for design of a 33,000 square foot fitness center which features cardiovascular and strength-training workout areas, racquetball courts, a spa, and an eatery. Students are given lectures and readings concerning the design of workout areas and racquetball courts. Also, the students can receive instruction on the use of computer-aided design (if you have access to such software) to facilitate the development of their floor plans. In essence, students are given the tools to perform the tasks, then their higher-order thinking skills are tested as they strive to accomplish the group's objectives.

Finally, to generate even greater student enthusiasm for these long-term projects, two groups can compete against each other (i.e., use the same project scenario) to see which group can develop the best designed, equipped, managed, maintained, and marketed facility. The groups present their plans at the conclusion of the semester and are judged by an independent panel of experts in the field. Closure of this type ensures that students have a chance to experience not only small-group cooperation but intra-class competition as well.

Sport facility design and management courses can be stimulating for students if cooperative, small-group learning is incorporated. The advantages of this type of instruction are well-documented and can be integrated with more traditional methods of instruction in semester projects. During the small-group exercises, the instructor's role should be one of resource person

and monitor, assisting each group individually, eavesdropping and asking questions, and challenging a group's logic when such probing is necessary. The most difficult aspect of this type of instruction is simply resisting the temptation to tell students what they should do.

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